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| Ronald E Greigg Greigg & Greigg 1423 Powhatan Street Suite One Alexandria, VA 22314 | | | EXAMINER SKRIPNIKOV, ALEX | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,657

Applicant(s)

BERWANGER ET AL.

Examiner

Alex Skripnikov

Art Unit

2473

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15, 19 and 21-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 19, 21-24, 27-29 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 25, 26, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Rejections of claims 20-32 under 35 U.S.C. 101, and claims 13-15 and 19-33 under 35 U.S.C. 112, second paragraph made in the previous Office action have been withdrawn in view of Applicants amendment filed on May 24, 2010.

Applicant's arguments regarding prior art rejections of claims 13 and 34, filed on May 24, 2010 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicants arguments (Remarks; page 13, lines 1-3): "*Hence, in Weigl et al the question of whether messages are of interest to the user or not is certainly not determined according to the data about the cycle contained in the message itself*" because the feature of determining according to the data about the cycle contained in the message itself is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Stoneking et al. discloses messages transmitted over the communication system whose identifier matches a predetermined identifier (Stoneking et al. column 4, lines 50- 58); where Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are not linked to a particular user (because a timing window of a transmission matrix is linked for exclusive components to a CAN message; Weigl et al.; column 6, lines 1-18)) according to the data about the cycle contained in the message (according to the transmission matrix

entry, where message includes rate of repetition of a transmission matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines 48-51 and therefore when user is not linked to the time instant in the matrix, user will not receive message (prevent from being loaded), because user is not linked to that message in the transmission matrix; column 6, lines 1-18).

Claim Objections

2. Claims **25, 26, 30, 31 and 34** objected to because of the following informalities:

Claims 25, 26 and 34, line 6: "in memory in a message", should be "in memory in the message";

Claims 25, 26 and 34, line 10: "in each message, storing data about a cycle are stored in memory", should be "in each message, storing data about a cycle in memory";

Claims 30 and 31, line 3: "sent by a user", should be "sent by the user";

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **13-15, 19, 21-24, 27-29 and 34** rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigl et al. US 6,842,808, as a Pre-Grant Publication US**

2001/0018720, published on August 30, 2001, of record, in view of **Stoneking et al. US 6,606,670**, of record.

As to claim 13:

Weigl et al. discloses a cycle-based communication system for transmitting useful data between users of the system, including a data bus and the users connected to it (Weigl et al.; column 1, lines 44-48), in which the data transmission is effected within cyclically repeating timeframes (first or base cycles; Weigl et al.; column 2, lines 24-35, line 56-57; Fig 4, BZOa-BZ7a) with at least two timeslots (timing windows) each (Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig. 2), and each timeslot is intended for transmitting one message (one periodic message Weigl et al.; column 3, lines 22-24), one message contains at least some of the useful data (data; Weigl et al.; column 6, lines 28-30), and each message is assigned an identifier (identifier; Weigl et al.; column 6, lines 28-30), characterized in that the identifier is stored in each message as part of the message (message includes identifier; Weigl et al.; column 6, lines 28-30); that each message additionally includes (supplemented; Weigl et al.; column 6, lines 28-33) data about the cycle (rate of repetition; Weigl et al.; column 6, lines 28-40, defines after how many base cycles this transmission is repeated); that the timeslots have a fixed length (specifiable length of timing windows; Weigl et al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); and that at least one of the timeslots of one timeframe can be used, in various cycles, for offset transmission of different messages that are not intended for transmission in every

cycle (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a, different messages (B,C) are transmitted offset (not transmitted in every cycle)).

Furthermore, Weigl et al. discloses data about the cycle (rate of repetition; Weigl et al.; column 6, lines 28-40) has additional cycle data (after how many base cycles this transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are not linked to a particular user (because a timing window of a transmission matrix is linked for exclusive components to a CAN message; Weigl et al.; column 6, lines 1-18)) according to the data about the cycle contained in the message (according to the transmission matrix entry, where message includes rate of repetition of a transmission matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines 48-51 and therefore when user is not linked to the time instant in the matrix, user will not receive message (prevent from being loaded), because user is not lined to that message in the transmission matrix; column 6, lines 1-18).

Weigl et al. fails to teach data about the cycle integrated with the identifier of each message; message can be learned from the identifier; messages transmitted over the communication system whose identifier matches a predetermined identifier.

However, Stoneking et al. discloses that any convenient fields and message format may be used depending on the particular implementation contemplated (Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier used together with other field (RTR bit) for the purpose of message arbitration, message can be learned from the identifier (numerical value for a function). (Stoneking et al.; column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is illustrated on Fig. 2A, 2B); messages transmitted over the communication system whose identifier matches a predetermined identifier (Stoneking et al. column 4, lines 50-58).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to access identifier field and supplemented rate of repetition field described by Weigl et al. in a combination, as taught by Stoneking et al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claims 14 and 15:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 13 above.

Furthermore, Weigl et al. discloses that the message includes data about the cycle (rate of repetition (defines after how many cycles this (current) transmission is repeated)) (Weigl et al.; column 6, lines 28-42; therefore, data about the cycle pertain to

the message and therefore pertain to the current cycle in which the message is sent and include an ordinal number of the cycle (after how many cycles transmission is repeated)).

As to claim 19:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 13 above.

Furthermore, Weigl et al. discloses the time data (timing window; Weigl et al.; column 6, lines 28-37) include data about the chronological position of a timeslot within a timeframe (Weigl et al.; column 6, lines 28-37; Fig. 4).

As to claim 34:

Weigl et al. discloses a method for transmitting useful data in a cycle-based communication system between users of the system via a data bus, to which the users are connected (Weigl et al.; column 1, lines 44-48), having method steps of: transmitting the useful data within cyclically repeating timeframes (first or base cycles; Weigl et al.; column 2, lines 24-35, line 56-57; Fig 4, BZOa-BZ7a) each with at least two timeslots (timing windows; Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig. 2), and in each timeslot transmitting one message (one periodic message; Weigl et al.; column 3, lines 22-24); storing at least some of the useful data in memory in a message (data stored in the message; Weigl et al.; column 6, lines 28-30), and assigning each message an identifier (identifier; Weigl et al.; column 6, lines 28-30); transmitting the messages in timeslots of fixed length (specifiable length of timing

windows; Weigl et al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); storing the identifier in memory in the message as part of the message (message includes identifier; Weigl et al.; column 6, lines 28-30); in each message, storing data about a cycle (rate of repetition; Weigl et al.; column 6, lines 28-40, defines after how many base cycles this transmission is repeated) are stored (supplemented; Weigl et al.; column 6, lines 28-33) in memory; in at least one of the timeslots of a timeframe, transmitting different messages offset from one another in various cycles, and in the at least one timeslot, transmitting those messages that are not intended for transmission in every cycle offset from one another (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a, different messages (B,C) are transmitted offset (not transmitted in every cycle));

Furthermore, Weigl et al. discloses additional cycle data (after how many base cycles this transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4); messages are of no interest to the user (messages that are not linked to a particular user (because a timing window of a transmission matrix is linked for exclusive components to a CAN message; Weigl et al.; column 6, lines 1-18)) according to the data about the cycle contained in the message (according to the transmission matrix

entry, where message includes rate of repetition of a transmission matrix entry; Weigl et al.; column 6, lines 1-41), are prevented from being loaded into the user (user synchronizes to the reception time instant; Weigl et al.; column 2, lines 48-51 and therefore when user is not linked to the time instant in the matrix, user will not receive message (prevent from being loaded), because user is not lined to that message in the transmission matrix; column 6, lines 1-18).

Weigl et al. fails to teach additional cycle data integrated with the identifier of each message; message can be learned from the identifier; messages transmitted over the communication system whose identifier matches a predetermined identifier.

However, Stoneking et al. discloses that any convenient fields and message format may be used depending on the particular implementation contemplated (Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier used together with other field (RTR bit) for the purpose of message arbitration, message can be learned from the identifier (numerical value for a function). (Stoneking et al.; column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is illustrated on Fig. 2A, 2B); messages transmitted over the communication system whose identifier matches a predetermined identifier (Stoneking et al. column 4, lines 50-58).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to access identifier field and supplemented rate of repetition field described by Weigl et al. in a combination, as taught by Stoneking et al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claim 21:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 34 above.

Furthermore, Weigl et al. discloses that the users of the communication system are each allocated at least one predeterminable timeslot of the timeframes (component of transmission matrix) for data transmission (Weigl et al.; column 6, lines 1-4; transmission groups also illustrated on Fig. 4).

As to claims 22-24:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 34 and 21 above.

Furthermore, Weigl et al. and Stoneking et al. disclose data pertaining to the current cycle (timing window, base mark and rate of repetition; Weigl et al.; column 5, lines 19-33) are additionally stored in memory in each message as part of the identifier of that message (access identifier field and supplemented field described by Weigl et al. in a combination, as taught by Stoneking et al.).

As to claims 27-29:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 22, 23 and 24 above.

Furthermore, Weigl et al. discloses current cycle data are monitored by the users (monitoring time by users; Weigl et al.; Fig. 5); and a message is sent by a user in a predeterminable timeslot only if the current cycle data match a predeterminable value (message is transmitted only when watchdog is actuated based on the time mark (when

time matches time for transmission); Weigl et al.; column 4, line 24-column 5, lines 1-22), stored in a memory of the user (timing mark within the watchdog; Weigl et al.; column 4, lines 44-65), for the data pertaining to the current cycle (for transmission matrix: timing window, base mark and rate of repetition; Weigl et al.; column 6, lines 1-41; Fig. 2; Fig. 4).

Weigl et al. fails to teach data traffic on the data bus of the communication system is observed.

However, Stoneking et al. discloses that each message includes a message ID; In order to determine whether to process a received message, each node examines the message ID from the message; each node is configured to process messages whose message IDs meet predetermined criteria; these criteria may be, for example, that the message ID is one in a defined set, is within a certain numeric range or outside of a certain numeric range; If the extracted message ID meets the predetermined criteria, then the receiving node processes the message (Stoneking et al. column 4, lines 50-58);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to update method of exchange of data described by Weigl et al. such that to update nodes to process only those messages which are configured to process (meet predetermined criteria), described by Stoneking et al. in order to allow coordinated control of many control nodes within the system (Stoneking et al. column 1, lines 29-31).

5. Claims **32 and 33** rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigl et al. US 6,842,808, as a Pre-Grant Publication US 2001/0018720**, published on August 30, 2001, of record, in view of **Stoneking et al. US 6,606,670**, of record and further in view of **Willard et al. US 5,600,312**, of record.

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 13 and 34 above.

Weigl et al. and Stoneking et al. fail to teach either a MUX bit is used to store data pertaining to the current cycle in the message or a separate cycle counter is used to store data pertaining to the current cycle in the message.

However, Willard et al. discloses a separate cycle counter is used to store data pertaining to the current cycle in the message (Willard et al.; column 3, lines 15-16 and 32-60; column 4, line 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to provide separate cycle counter as taught by Willard et al. in the system taught by Weigl et al. and Stoneking et al. in order to provide frame timing synchronization in the system (Willard et al.; column 3, lines 15-16 and 32-60; column 4, line 20).

Allowable Subject Matter

6. Claims **25, 26, 30 and 31** allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Skripnikov whose telephone number is 571-270-1958. The examiner can normally be reached on Monday - Friday 9:00 AM to 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 31, 2010

/Alex Skripnikov/
Examiner, Art Unit 2473

/Steven H.D Nguyen/
Primary Examiner, Art Unit 2473